In the Claims

1-40 (canceled).

41 (currently amended). A method for detecting or diagnosing an endometrial irregularity in a female animal, said method comprising screening an endometrial tissue, an endometrial fluid, serum, saliva, or urine from the female animal for an abnormal level of ~~an~~ a nucleic acid encoding a human endometrial bleeding associated factor (ebaf) protein ~~(*ebaf*) nucleic acid, or a protein encoded by an *ebaf* nucleic acid~~, wherein said *ebaf* nucleic acid is RNA and said method comprises detecting the level of *ebaf* RNA by screening by Northern blot analysis or by polymerase chain reaction (PCR) analysis, wherein an abnormal level of said *ebaf* nucleic acid ~~or said protein encoded by an *ebaf* nucleic acid~~ is indicative of an endometrial irregularity in the female animal.

42-45 (canceled).

46 (previously presented). The method according to claim 41, wherein said endometrial irregularity is infertility.

47 (previously presented). The method according to claim 41, wherein said endometrial irregularity is endometriosis.

48 (previously presented). The method according to claim 41, wherein said endometrial irregularity is abnormal uterine bleeding.

49-53 (canceled).

54 (currently amended). A method for determining or diagnosing endometrial receptivity level of a female animal, said method comprising determining whether the level of a nucleic acid encoding a human ebaf proteinan ~~*ebaf* nucleic acid, or a protein encoded by an *ebaf* nucleic acid~~, in an endometrial tissue sample, an endometrial fluid sample, a serum sample, a saliva sample, or a urine sample of the female animal is present at a level indicative of endometrial receptivity, wherein said *ebaf* nucleic acid is RNA and the level of *ebaf* RNA is determined by Northern blot analysis or by polymerase chain reaction (PCR) analysis.

55-60 (canceled).

61 (currently amended). A method for diagnosis and prognosis of infertility in a female animal, said method comprising determining the level of a nucleic acid encoding a human ebaf proteinan ~~*ebaf* nucleic acid, or the level of a protein encoded by an *ebaf* nucleic acid~~, in an endometrial sample, endometrial fluid, a serum sample, a saliva sample, or a urine sample from the female animal; and correlating said level of *ebaf* nucleic acid ~~or said level of said protein encoded by said *ebaf* nucleic acid~~ with normal levels so as to provide a diagnosis or prognosis of infertility in the female animal, wherein said *ebaf* nucleic acid is RNA and the level of *ebaf* RNA is determined by Northern blot analysis or by polymerase chain reaction (PCR) analysis.

62 (currently amended). A method for diagnosis and prognosis of endometriosis in a female animal, said method comprising determining the level of a nucleic acid encoding a human ebaf proteinan ~~*ebaf* nucleic acid, or the level of a protein encoded by an *ebaf* nucleic acid~~, in an endometrial sample, endometrial fluid, a serum sample, a saliva sample, or a urine sample from the female animal; and correlating said level of *ebaf* nucleic acid ~~or said level of said protein encoded by said *ebaf* nucleic acid~~ with normal levels so as to provide a diagnosis or prognosis of endometriosis in the female animal, wherein said *ebaf* nucleic acid is RNA and the level of *ebaf* RNA is determined by Northern blot analysis or by polymerase chain reaction (PCR) analysis.

63 (currently amended). A method for diagnosis and prognosis of menometrorrahagia in a female animal, said method comprising determining the level of ~~an~~ a nucleic acid encoding a human ebaf protein~~an *ebaf* nucleic acid, or the level of a protein encoded by an *ebaf* nucleic acid~~, in an endometrial sample, endometrial fluid, a serum sample, a saliva sample, or a urine sample from the female animal; and correlating said level of *ebaf* nucleic acid ~~or said level of said protein encoded by said *ebaf* nucleic acid~~ with normal levels so as to provide a diagnosis or prognosis of menometrorrahagia in the female animal, wherein said *ebaf* nucleic acid is RNA and the level of *ebaf* RNA is determined by Northern blot analysis or by polymerase chain reaction (PCR) analysis.

64-65 (canceled).

66 (currently amended). An isolated antibody that specifically binds to a peptide ~~having~~ that consists of the amino acid sequence shown in SEQ ID NO. 3.

67 (previously presented). The antibody according to claim 66, wherein said antibody is a monoclonal antibody.

68 (canceled).

69 (currently amended). An isolated antisera that specifically binds to a peptide ~~having~~ that consists of the amino acid sequence shown in SEQ ID NO. 3.

70 (previously presented). An isolated peptide consisting of the amino acid sequence shown in SEQ ID NO. 3.

71-75(canceled).

76 (currently amended). A kit comprising in one or more containers, an antibody that specifically binds to a peptide ~~having~~ that consists of the amino acid sequence shown in SEQ ID NO. 3.

77 (previously presented). The kit according to claim 76, wherein said antibody is a monoclonal antibody.

78 (currently amended). A kit comprising in one or more containers:

~~a) an antisera that specifically binds to a protein encoded by an *ebaf* nucleic acid, or~~

~~b)~~a) an antisera that specifically binds to a peptide ~~having~~ that consists of the amino acid sequence shown in SEQ ID NO. 3, or

~~c)~~b) an antisera that specifically binds to both a protein encoded by an *ebaf* nucleic acid and a peptide ~~having~~ that consists of the amino acid sequence shown in SEQ ID NO. 3.

79 (currently amended). A kit comprising in one or more containers:

~~a) a protein encoded by an *ebaf* nucleic acid; or~~

~~b)~~ a peptide consisting of the amino acid sequence shown in SEQ ID NO. 3.

80-85 (canceled).

86 (new). The method according to claim 41, wherein the female animal is a human.

87 (new). The method according to claim 41, wherein said nucleic acid comprises the nucleotide sequence of a human *ebaf* gene.

88 (new). The method according to claim 54, wherein the female animal is a human.

89 (new). The method according to claim 54, wherein said nucleic acid comprises the nucleotide sequence of a human *ebaf* gene.

90 (new). The method according to claim 61, wherein the female animal is a human.

91 (new). The method according to claim 61, wherein said nucleic acid comprises the nucleotide sequence of a human *ebaf* gene.

92 (new). The method according to claim 62, wherein the female animal is a human.

93 (new). The method according to claim 62, wherein said nucleic acid comprises the nucleotide sequence of a human *ebaf* gene.

94 (new). The method according to claim 63, wherein the female animal is a human.

95 (new). The method according to claim 63, wherein said nucleic acid comprises the nucleotide sequence of a human *ebaf* gene.